AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (Currently Amended): A multi-chip-module ~~with~~ comprising: a base carrier (1), on which, at least in some areas, signal conductor tracks (2, 8) arranged at least in a single layer and signal contact surfaces (4) are arranged, and with at least one semiconductor component (11) connected with signal conductor tracks (2) and signal contact surfaces (4) operating in the signal range, wherein, additionally, on the base carrier (1), at least in some areas, power conductor tracks (5) and power contact surfaces (7, 7a) are arranged in at least a single layer, at least one power electronics component (12) operating in the power range is provided, which is connected with at least one power conductor track (5), at least one power contact surface (7, 7a) and at least one signal conductor track (2, 8) and the power conductor tracks (5) have a larger cross section than the signal conductor tracks (2) at least on the basis of greater thickness dimensions.

Claim 2 (Previously Presented): The multi-chip-module in accordance with claim 1, wherein the at least one signal conductor track (2, 8) leading to a power electronics component (12) essentially seamlessly verges into a power conductor track (5) and/or power contact surface (7).

Claim 3 (Currently Amended): The multi-chip-module according to claim 1,

wherein ~~the ratio of the height of a power conductor track (5) and/or power contact surface (7, 7a) to the signal conductor track (2,8) and/or signal contact surface (4) is situated within the range of 2 to 300, in preference 120 to 130~~ the height of at least one of the power conductor tracks (5) and the power contact surfaces (7, 7a) is 2 to 300 times greater than the height of one of the signal conductor tracks (2, 8) and the signal contact surfaces (4).

Claim 4 (Previously Presented): The multi-chip-module according to claim 1, wherein the ratio of the conductor cross section of a power conductor track (5) and/or power contact surface (7, 7a) to the conductor cross section of a signal conductor track (2, 8) amounts to 2 to 1000, in preference 80 to 400.

Claim 5 (Previously Presented): The multi-chip-module according to claim 1, wherein the ratio of height to width of a power conductor track (5) and/or power contact surface (7, 7a) is situated in the range of 0.1 to 10, in preference 1 to 4.

Claim 6 (Previously Presented): The multi-chip-module according to claim 1, wherein at least one power conductor track (5) merges into several power contact surfaces (7a) for the common contacting of a power electronics component (12).

Claim 7 (Currently Amended): The multi-chip-module according to claim 1, ~~wherein~~ further comprising signal connection contact surfaces (3) and power connection contact surfaces (6) ~~are provided for an external connection belonging to~~

~~them~~ for connection to external devices, wherein the signal connection contact surfaces (3) and the power connection contact surfaces (6) essentially are of the same height.

Claim 8 (Withdrawn): The multi-chip-module according to claim 1, wherein signal connection contact surfaces (3) and power connection contact surfaces (6) are arranged on the side of the base carrier (1), which is opposite the semiconductor components (11) and power electronics components (12) (reverse side), wherein the connection contact surfaces (3, 6) are electrically in connection with the opposite side (front side) by means of conductor track sections passing through the base carrier (1).

Claim 9 (Previously Presented): The multi-chip-module according to claim 1, wherein the dimension, which results from the height of a power conductor track (5) minus the height of a power contact surface (7a) electrically in connection with this power conductor track (5), is either the same or greater than the height of the power electronics component (12) contacting this power contact surface (7a).

Claim 10 (Previously Presented): The multi-chip-module according to claim 1, wherein on the base carrier (1) at least one heat conducting element is jointly arranged, which is in a thermally conducting connection with a power electronics component (12).

Claim 11 (Previously Presented): The multi-chip-module according to claim 10, wherein the at least one heat conducting element (9) is connected with a heat exchanger device (13).

Claim 12 (Withdrawn): The multi-chip-module according to claim 11, wherein the heat exchanger device (13) is located on the reverse side of the base carrier (1) and the heat conducting element (9) passes through the base carrier (1).

Claim 13 (Previously Presented): The multi-chip-module according to claim 11, wherein the heat exchanger device (13) comprises fine cooling ribs with a ratio of height to width of 0.1 to 10, in preference 1 to 4.

Claim 14 (Withdrawn): The multi-chip-module according to claim 1, wherein a heat exchanger device (13) is directly thermally conductively connected with a power electronics component (12).

Claim 15 (Withdrawn): The multi-chip-module according to claim 1, wherein the signal connection contact surfaces (3) and the power connection contact surfaces (6) are grouped and arranged on the base carrier (1) in such a manner, that the module is capable of being inserted into a standardised base.

Claim 16 (Withdrawn) A method for manufacturing a multi-chip-module, comprising the steps of:

preparing a base carrier (1) with signal conductor tracks (2, 8) and signal contact surfaces (4),

depositing a structured layer, by which at least the signal conductor tracks (2) and signal contact surfaces (4) are essentially covered with the exception of connection points and which comprises a negative structure of the power conductor tracks (5) and/or power contact surfaces (7, 7a),

filling-up of the negative structure by means of a metallisation process for the creation of the power conductor tracks (5) and/or power contact surfaces (7), wherein at the connection points a contacting of the signal conductor tracks (2, 8) and/or signal contact surfaces (4) and of the power conductor tracks (5) and/or the power contact surfaces (7) is effected.

Claim 17 (Withdrawn): The method according to claim 16, wherein a conductive adhesive layer is deposited on the base carrier (1) in the zone of the negative structure, which serves as base for the metallisation process.

Claim 18 (Withdrawn): The method according to claim 16, wherein the structured layer is deposited by means of a photo-lithographic process.

Claim 19 (Withdrawn): The method according to claim 16, wherein the metallisation process is effected by the galvanic deposition of metal.

Claim 20 (Withdrawn): The method according to claim 19, wherein, following the metallisation process, the structured layer is removed.

REMARKS

The application has been carefully reviewed in light of the Office action, and amended as necessary to more clearly and particularly describe the subject matter which applicant regards as the invention.

Claims 1-20 are currently pending in the present application. The Examiner has withdrawn from consideration claims 8, 12 and 14-20. In this Amendment "B", claims 1, 3 and 7 have been amended. Applicant respectfully asserts that the claims are patentable over the cited references for at least the reasons set forth below. Reconsideration of the present application in its current format is hereby respectfully requested.

In the Office action, the Examiner has maintained his restriction and election of species requirement. Once again, Applicant traverses this restriction and election of species requirement and requests the Examiner to reconsider the requirement. In accordance with MPEP § 818.03(c), Applicant may defer its petition to the Commissioner until after final action on or allowance of claims to the invention elected.

Applicant submits that the Examiner's restriction requirement (and withdrawal from consideration of claims 16-20) is incorrect because MPEP §1850 specifically finds unity of invention for "an independent claim for a given product" and "an independent claim for a process specially adapted for the manufacture of the said product". In response to the arguments previously presented by the Applicant on this issue, the Examiner states: "Group II teaches a method of manufacturing a multi-chip module that can be used in vary processes, for example: coating, sputtering processes instead of

using metallization or photo-lithographic processes." Presumably then, the Examiner is interpreting the term "specially adapted" to mean that the method can only be used to the produce the multi-chip of claims 1- 5. This interpretation, however, is incorrect and contrary to established law. In an analogous situation, a court found that it was an unreasonable interpretation to say that the expression "specifically designed" as found in former PCT Rule 13.2(ii) means that the process and apparatus have unity of invention if they can only be used with each other. *Caterpillar Tractor Co. v. Commissioner of Patents and Trademarks*, 231 USPQ 590 (E.D. Va. 1986).

Applicant submits that the Examiner's species election requirement (and withdrawal from consideration of claims 8, 12, 14 and 15) is also incorrect because MPEP §1850 specifically states: "If the independent claims avoid the prior art and satisfy the requirement of unity of invention, ***no problem of lack of unity arises in respect of any claims that depend on the independent claims***."

In the Office action, the Examiner suggested that the headings for the specification should be in strict compliance with the format set forth in the Office action. Initially, Applicant notes that the format set forth in the Office action is not strictly identical to the format set forth in the most recent version of 37 CFR §1.77 (b), e.g., there is no requirement in 37 CFR §1.77 (b) to include headings for sections that are not applicable. Applicant submits that the specification is in compliance with the requirements of 37 CFR §1.77 (b) and respectfully declines to amend the specification to be in the format suggested by the Examiner.

The Examiner has rejected claims 3 and 7 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the

subject matter which applicant regards as the invention. With regard to claim 3, the Examiner does not understand the phrase "the ratio of the height....130". With regard to claim 7, the Examiner finds that there is lack of antecedent basis for "the signal connection contact surfaces (3)". In response, claims 3 and 7 have been amended. Applicant asserts that amended claims 3 and 7 meet the requirements of 35 U.S.C. §112, second paragraph.

Claims 1-3 and 6 stand rejected under 35 USC 102(e) as being anticipated by U.S. Patent No. 6,129,560 to Baur et al. For at least the following reasons, the Examiner's rejection is traversed.

The Baur et al. patent discloses a plug-and-socket connector C that includes a conductor track structure 1 fixed to a plastic injection molded piece 5. Components 10 are mounted to the track structure 1. An opening 4 is formed in the track structure 1 and adjoins a plug region CA. Connecting pins 2.2 are disposed in the opening 4 and the plug region CA. As set forth in column 4, lines 21-26, the connecting pins 2.2 are formed by bending pin-like tongues 2.0 of the track structure 1. The connecting pins 2.2 are inserted into socket-shaped contacting elements 34 of a plug SII when the plug SII is inserted into the plug region CA through the opening 4. Portions of the track structure 1, designated as webs 22, extend laterally from the connector C and are formed after a perforated edge 21 is separated.

In rejecting independent claim 1 based on the Baur et al. patent, the Examiner finds that the track structure 1 of the Baur patent corresponds to the "signal conductor tracks" recited in independent claim 1. In addition, the Examiner finds "22 of plug SI" of the Baur et al. patent as corresponding to the "power conductor tracks" of claim 1.

Applicant is not sure what structure in the Baur et al. patent the Examiner is referring to with regard to "22 of plug SI". Applicant presumes the Examiner is referring to connecting pins 2.2. Initially, Applicants assert that the connecting pins 2.2 of the Baur et al. patent cannot reasonably be construed as "conductor tracks" in the context of the relevant art, namely circuit boards. The connecting pins 2.2 extend in cantilever fashion, have free ends and are adapted to be inserted into sockets. Such a structure would not be construed by one skilled in the art as being a "conductor track". In addition to not being "conductor tracks", the connecting pins 2.2 are not thicker than the track structure 1. As set forth above, the connecting pins 2.2 are formed by bending the pin-like tongues 2.0 of the track structure 1. Therefore, the connecting pins 2.2 will always and necessarily have the same thickness as the track structure 1. Accordingly, the Baur et al. patent fails to show or suggest a multi-chip-module having power conductor tracks (5) and signal conductor tracks (2), wherein "*the power conductor tracks (5) have a larger cross section than the signal conductor tracks (2) at least on the basis of greater thickness dimensions*", as is recited in independent claim 1.

For at least the foregoing reason, Applicant submits that the Baur et al. patent does not show or suggest independent claim 1. Applicant considers it apparent that the Leanna et al. patent also fails to show or suggest claims 2-15 because they all depend from claim1 and recite additional novel features of the present invention. Applicant notes that the Examiner acknowledges the patentability of claims 4-5, 9-11 and 13.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is

invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 18-0160, our Order No. FRR-12671.

Respectfully submitted,

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